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DIRECTORATE OF
INTELLIGENCE

Industrial Facilities
(Non-Military)

Basic Imagery Interpretation Report

Lan-chou Chemical Fertilizer Plant

Lan-chou, China

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
Imagery Analysis Service

INSTALLATION OR ACTIVITY NAME	COUNTRY
Lan-chou Chemical Fertilizer Plant	CH

UTM COORDINATES	GEOGRAPHIC COORDINATES
48SUQ742988	36-07-19N 103-36-06E

25X1

MAP REFERENCE

ACIC. USATC, Series 200, Sheet M0383-22HL, 3rd ed, Dec 68, Scale 1:200,000 (SECRET[redacted] 25X1

LATEST IMAGERY USED	NEGATION DATE (If required)
[redacted]	NA

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ABSTRACT

The primary function of the Lan-chou Chemical Fertilizer Plant is the production of ammonium nitrate fertilizer. Secondary products include nitric acid, ammonia, and concentrated nitric acid.

In September 1959, when the plant was first seen on overhead photography, it was complete and operating in all production areas. By March 1963, the air separation building had been expanded and a cooling tower and numerous support and storage buildings had been added. Between March 1963 and October 1964, another cooling tower was constructed and the compressor building and the nitric acid facility were expanded. From October 1964 through July 1971 only minor construction was observed.

Since September 1959, the plant has been seen operating on 20 coverages including the latest photography in July 1971. During this period activity could not be determined on three coverages and the plant was not operating on five coverages.

This report includes a photograph, a process flow chart, a line drawing of the plant, and a chronological summary of construction and operational status.

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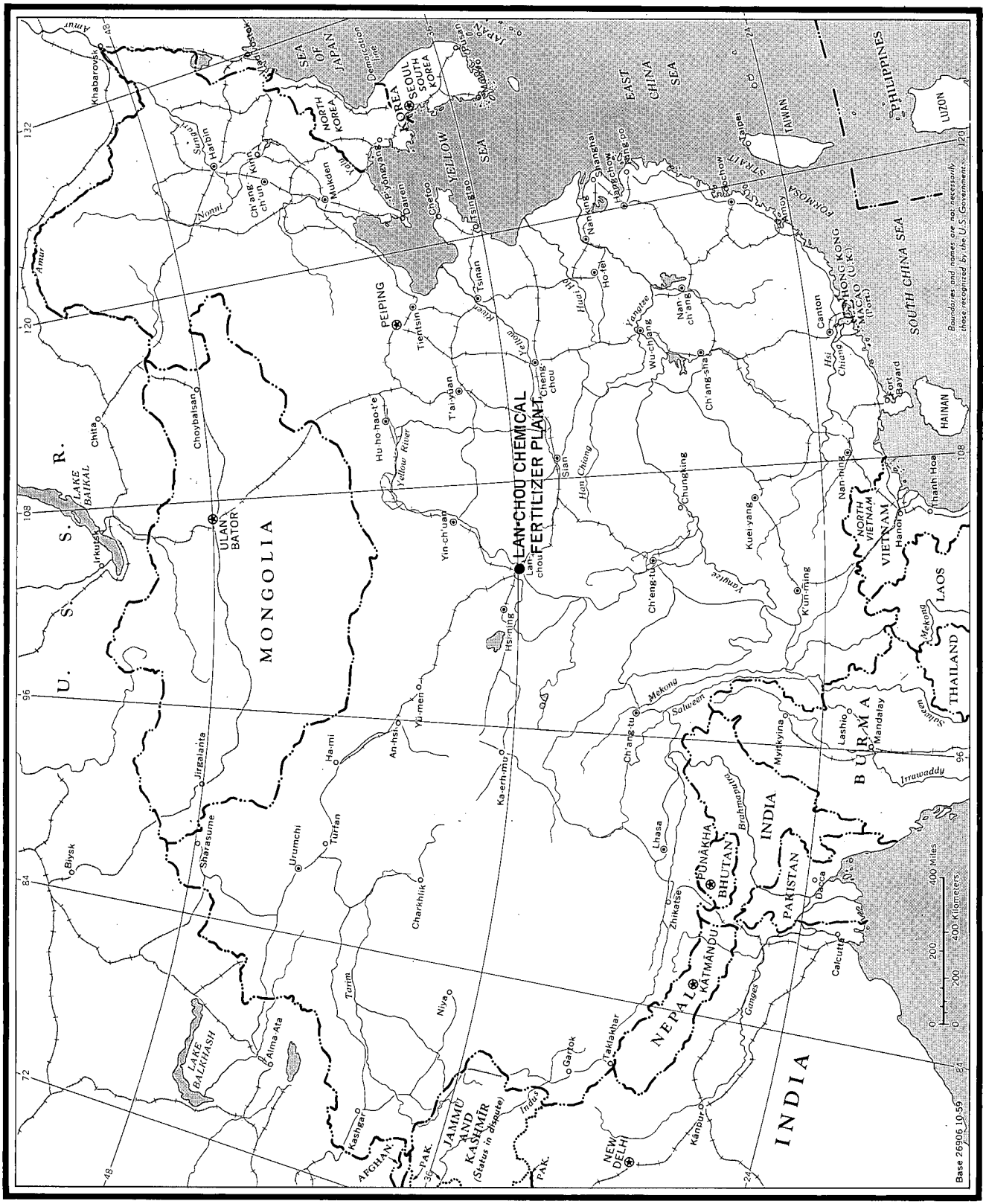

FIGURE 1. LOCATION MAP.

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INTRODUCTION

Lan-chou Chemical Fertilizer Plant is located 11.6 nautical miles west-northwest of the center of Lan-chou, Kansu Province (see Figure 1). It is situated in the Hsi-ku industrial area, which also includes Lan-chou Petroleum Refinery , Lan-chou Petrochemical Plant , Lan-chou Aluminum Plant Hsi-ku and Lan-chou Thermal Power Plant Hsi-ku . The thermal power plant supplies electric power and steam to the entire industrial complex.

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BASIC DESCRIPTION

Physical Features

The plant occupies about 380 acres in an area measuring approximately 5,155 by 3,480 feet (see Figures 2 and 3). It is partially secured by a wall on the east and south sides. The plant is served by a rail spur from the Lan-chou to Ho-kou rail line.

Operational Functions

The primary function of this plant is the production of ammonium nitrate fertilizer. Secondary products include nitric acid, ammonia, and concentrated nitric acid. Hydrogen from producer gas and nitrogen from air separation are utilized as feed material for the synthesis of ammonia. Hydrogen may also be obtained from the gas fractionation unit and the probable catalytic reformer located in the Lan-chou Petroleum Refinery. Sulfuric acid, which is used as a dehydrating agent in the concentration of nitric acid, is probably shipped in. The sulfuric acid may be recovered and used again. The process flow for the plant is shown in Figure 4.

Reports from various sources have indicated that methanol and dry ice are produced at this plant. 1,2/ The specific facilities for these products have not been identified from photography, but the materials necessary for their production are available as a result of other production processes within the plant.

Construction Chronology

In September 1959, when the plant was first seen on overhead photography, it was complete and operating in all production areas. By March 1963, the air separation building had been expanded and a cooling tower and numerous support and storage buildings had been added. Between March 1963 and October 1964, another cooling tower was constructed and the compressor building and the nitric acid facility were expanded. From October 1964 through July 1971 only support buildings were added.

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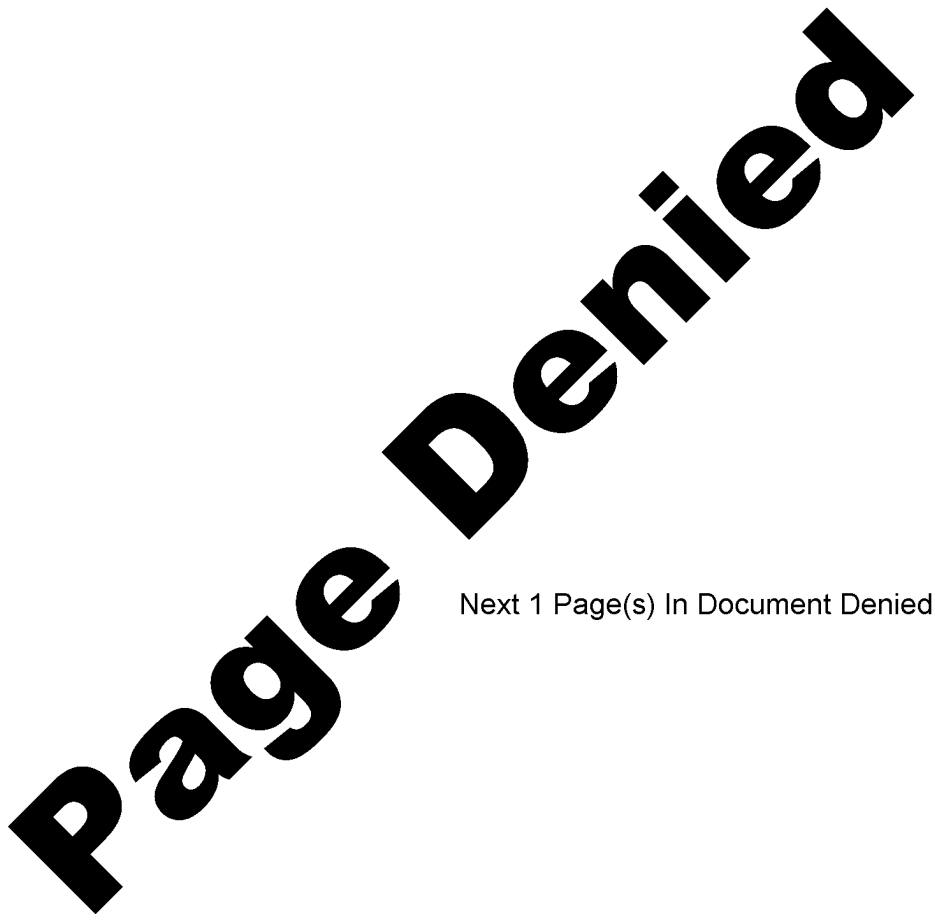

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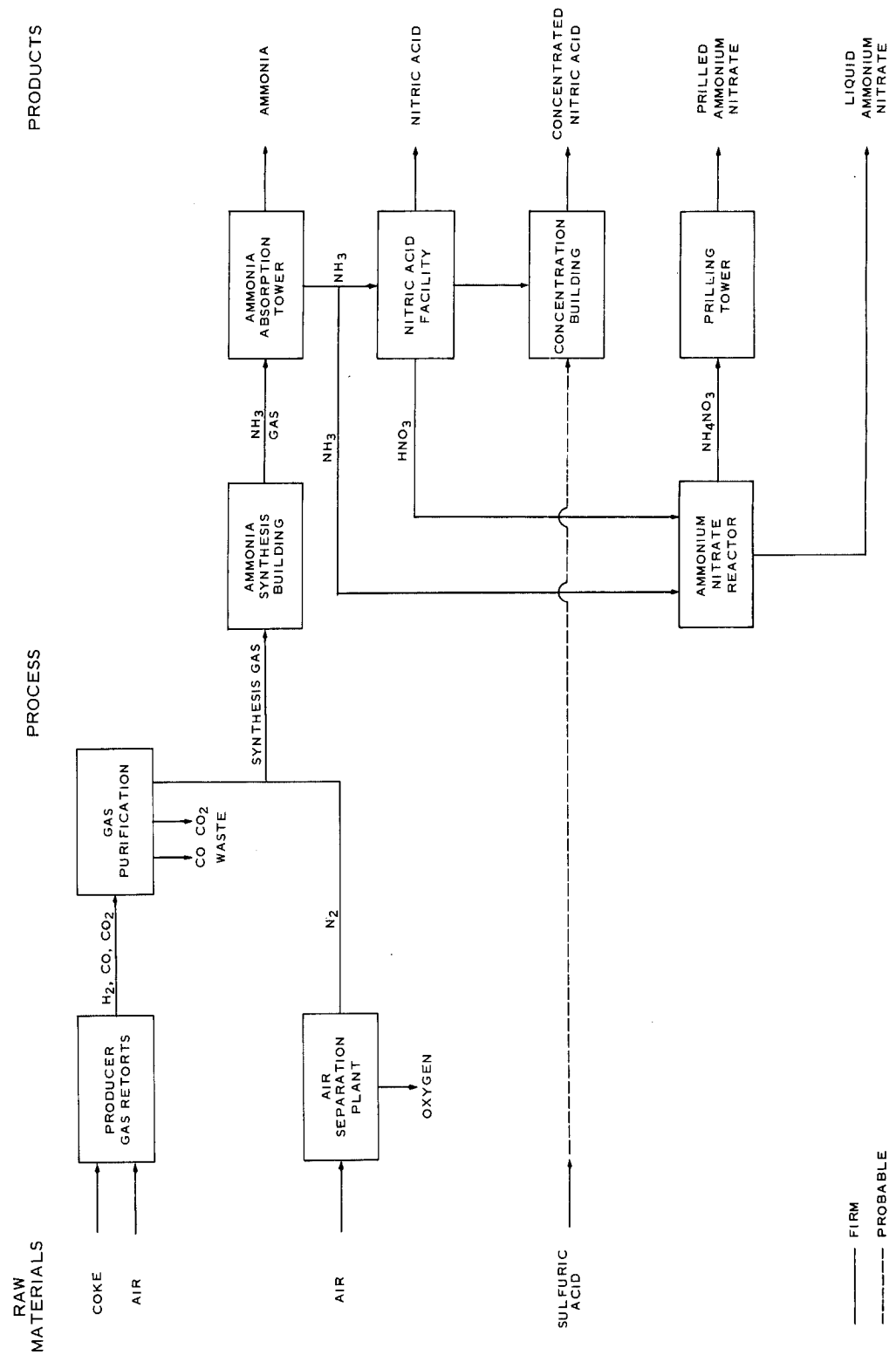

FIGURE 4. PROCESS FLOW AT LAN-CHOU CHEMICAL FERTILIZER PLANT.

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Operational Status

The plant was in operation in September 1959. Of 28 coverages since that time, the plant was in operation on 20 coverages including the latest photography in July 1971. This was indicated by vapors from the prilling towers, retorts, and nitric acid unit and by fluctuations in the number of rail cars observed in the shipping area. On three coverages activity could not be determined. On five coverages the plant was not in operation, possibly due to seasonal variations in the production of fertilizer.

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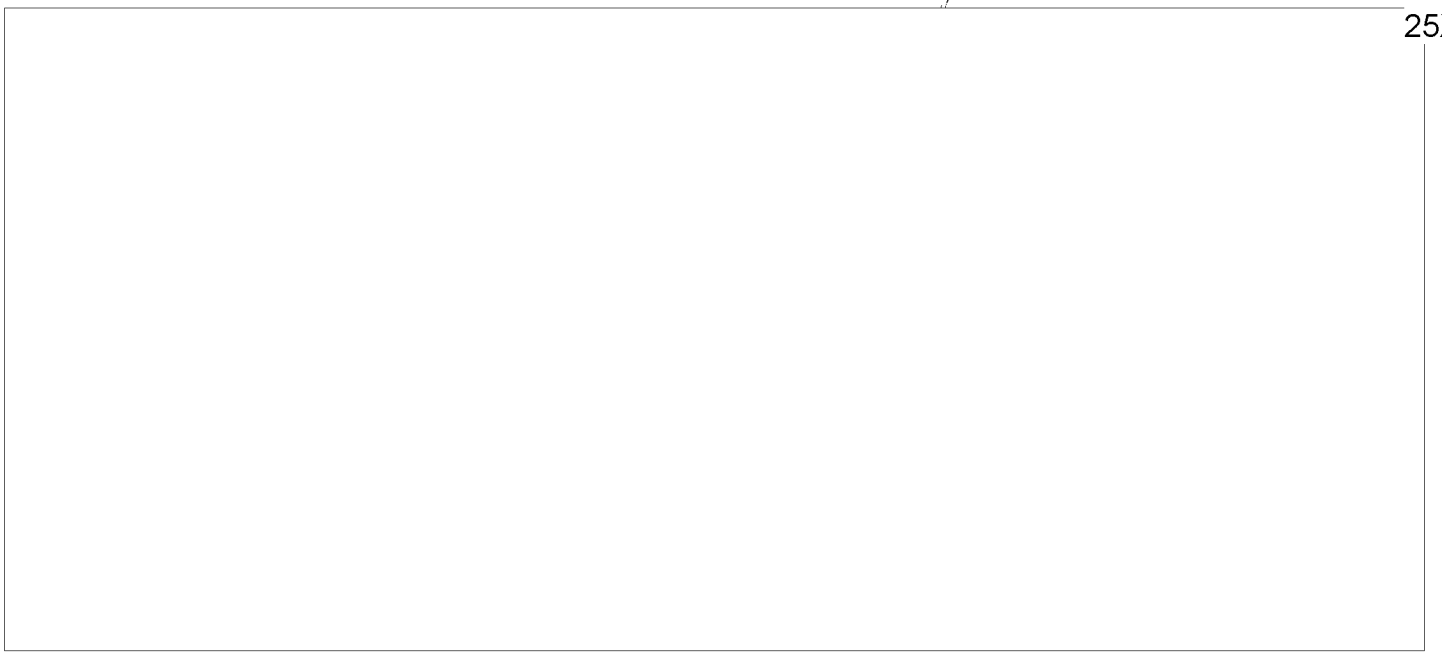

Map

ACIC. US Air Target Chart, Series 200, Sheet M0383-22HL, 3rd edition, December 1968. Scale 1:200,000 (SECRET

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Documents

1. State. Hong Kong, Desp 249, Communist China: Chemical Fertilizer Industry (1955-1959), 12 November 1959 (UNCLASSIFIED)

2. Peking, NCNA, English, July 16, 1960 (UNCLASSIFIED) 25X1

Requirement

COMIREX NO7

Support Number 422973

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